

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 2004/000714

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: F16L 47/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: F16L, F16B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3502355 A (H.W. DEMLER, SR. ET AL), 24 March 1970 (24.03.1970), column 4, line 52 - column 5, line 5, figures 7-10 --	1
Y	AU 35181 A (JOHN BRIAN O'HAIR ET AL), 3 May 1973 (03.05.1973), figure A --	1
Y	US 2484644 A (O.J. POUPITCH), 11 October 1949 (11.10.1949), figures 1-3 --	1
Y	US 3856065 A (GEHRING), 24 December 1974 (24.12.1974), figures 1-2 --	1

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

10 March 2005

Date of mailing of the international search report

11-03-2005

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 4154466 A (SIMMONS), 15 May 1979 (15.05.1979), column 3, line 32 - column 4, line 22, figures 2-3</p> <p style="text-align: center;">-- -----</p>	10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/FI 2004/000714

US	3502355	A	24/03/1970	NONE		
AU	35181	A	03/05/1973	NONE		
US	2484644	A	11/10/1949	NONE		
US	3856065	A	24/12/1974	NONE		
US	4154466	A	15/05/1979	AU	514698 B	19/02/1981
				AU	3206977 A	05/07/1979
				CA	1082247 A	22/07/1980
				CA	1102847 A	09/06/1981
				CA	1102848 A	09/06/1981
				CA	1118469 A	16/02/1982
				FR	2376354 A,B	28/07/1978
				GB	1600608 A	21/10/1981
				GB	1600609 A	21/10/1981
				GB	1600610 A	21/10/1981
				IE	46637 B	10/08/1983
				IE	46638 B	10/08/1983
				IE	46639 B	10/08/1983
				IE	772648 L	03/07/1978
				IE	812783 L	03/07/1978
				IE	812784 L	03/07/1978
				JP	53089021 A	05/08/1978
				MY	45986 A	31/12/1986
				MY	46086 A	31/12/1986
				MY	97685 A	31/12/1985
				NL	185238 B,C	18/09/1989
				NL	7713919 A	05/07/1978
				NO	161820 B,C	19/06/1989
				NO	774200 A	04/07/1978
				SG	84984 G	07/06/1985
				SG	85084 G	07/06/1985
				SG	85284 G	07/06/1985
				US	RE31123 E	11/01/1983